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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,807	03/17/2004	Shih-Tsung Chen	23724-08324	5599
758	7590	05/01/2006	EXAMINER	
FENWICK & WEST LLP SILICON VALLEY CENTER 801 CALIFORNIA STREET MOUNTAIN VIEW, CA 94041			HOFFBERG, ROBERT JOSEPH	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/803,807	Applicant(s) CHEN, SHIH-TSUNG	
	Examiner Robert J. Hoffberg	Art Unit 2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1, 3 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 6,105,662) in view of Rodriguez et al. (US 6,704,196).

With respect to Claim 1, Suzuki teaches that a cooling apparatus for a computer comprising: a conductive base plate (Fig. 2, #36) configured to be installed over a CPU (Fig. 2, #34) and to transfer heat therefrom; a heat conductor (Fig. 2, #38) thermally coupled to the base plate adapted to carry heat transferred to the base plate by the CPU away from the base plate; a heat sink (Fig. 2, #40) thermally coupled to the heat conductor for dissipating heat carried by the heat conductor; a fan (Fig. 2, #44) for dispersing heat transferred to the heat sink; and a housing (Fig. 1, #46) for the heat sink and the fan configured to be installed adjacent to a window (Fig. 1, #48) in a computer chassis (Fig. 1, #30) such that the fan can direct airflow (Col. 1, line 38) through the heat sink and out the window in a computer chassis (Fig. 1, #30) such that the fan can direct airflow (col. 1, line 38) through the heat sink and out the window. Suzuki fails to teach an airflow over a power supply. Rodriguez et al. teaches a fan that is configured to direct an airflow (Fig. 1, #144 and #146) over a power supply (Fig. 1, #142) installed within the computer to remove heat therefrom. It would have been obvious to one of

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ordinary skill in the art at the time of the invention was made to modify the apparatus of Suzuki with that of Rodriguez et al. for the purpose of minimizing components by cooling the CPU and power supply with the same airflow.

With respect to Claim 2, Suzuki teaches the cooling apparatus of claim 1. Suzuki fails to teach the form factor of the computer chassis. While Suzuki fails to disclose the form factor of the computer chassis, it is obvious that the chassis has a size. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include a computer chassis size of a small form factor computer or any size which meets the application of the chassis.

With respect to Claim 3, Suzuki further teaches that the heat conductor comprises one or more heat pipes (Fig. 2, #38).

With respect to claim 7, Suzuki teaches the cooling apparatus of claim 1. Suzuki does not teach the placement of the fan. Rodriguez et al. teaches the fan (Fig. 1, #148) is configured to face the power supply (Fig. 1, #142). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Suzuki with that of Moore for the purpose of cooling the CPU and power supply with the same fan.

With respect to Claim 8, Suzuki further teaches that the heat conductor the heat sink comprises a plurality of cooling fins (Col. 2, #42).

3. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 6,105,662) in view of Rodriguez et al. (US 6,704,196) as applied to the above claims, in view of Moore (US 5,982,616).

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With respect to Claim 4, Suzuki in view of Rodriguez et al. teaches the cooling apparatus of the above claims. They fail to teach a plurality of heat pipes. Moore teaches a plurality of heat pipes (Fig. 2, #78), each heat pipe connected to the heat sink (Fig. 4, #52) through a hole (Col. 4, lines 11-15) to facilitate heat exchange therebetween. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Suzuki with that of Moore for the purpose of having parallel heat pipes to increase the heat dissipation.

With respect to Claim 5, Suzuki teaches the cooling apparatus of claim 3. Suzuki does not teach the type of heat pipe. Moore teaches the heat pipes contain at least one of: a metal mesh grid and a liquid (Col. 4, line 14) for transferring the heat contained within the heat pipe. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Suzuki with that of Moore for the purpose of increasing the heat dissipation.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 6,105,662) in view of Rodriguez et al. (US 6,704,196) as applied to claim 1 above, in view of Mochizuki et al. (US 5,964,279).

With respect to Claim 9, Suzuki in view of Rodriguez et al. teach the cooling apparatus of the above claims. They fail to teach the heat sink material. Mochizuki teaches the cooling fins are made of one of: copper (Col. 3, line 63) and compression molded aluminum. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Suzuki in view of Rodriguez

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et al. with that of Mochizuki et al. for the purpose of fabricating the heat sink from a good heat conducting material.

5. Claims 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 6,105,662) in view of Rodriguez et al. (US 6,704,196) as applied to claim 1 above, in view of Yin (US 5,586,865).

With respect to Claim 10, Suzuki in view of Rodriguez et al. teach the cooling apparatus of claim 1. They do not teach a screen over the window. Yin teaches a computer chassis (Fig. 1, #10C) comprising the window (Fig. 1, #10P) in the computer chassis, a screen (Fig. 3, #34S) over the window, and a second window configured to intake (Fig. 1, #10V) ambient air. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Suzuki in view of Rodriguez et al. with that of Yin for the purpose of creating a filtered airflow for cooling.

6. Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 6,105,662), in view of Rodriguez et al. (US 6,704,196).

With respect to Claim 11, Suzuki teaches a method of cooling the interior of a computer chassis, the method comprising: transferring heat generated by a CPU (Fig. 2, #34) in the computer chassis (Fig. 1, #30) to a heat sink (Fig. 2, #40) through a base member (Fig. 2, #36) installed adjacent to the CPU and a cooling pipe (Fig. 2, #38) connected to the heat sink; and drawing ambient airflow (Col. 1, line 38) into the chassis through a first window (Fig. 1, #48 top) in the chassis, pass through a fan (Fig. 2, #44), and be blown by the fan over the heat sink (Fig. 2, #40) to outside (Fig. 1, #48 bottom)

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the chassis. Suzuki does not teach the air flow is directed to pass over a power supply. Rodriguez et al. teaches wherein the air flow (Fig. 1, #144 and #146) is directed to pass over a power supply (Fig. 1, #142) in the chassis (Fig. 1, #102). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Mochizuki et al. with that of Rodriguez et al. for the purpose of cooling the CPU and power supply with the same airflow.

Response to Arguments

7. Applicant's arguments filed 4/13/06 have been fully considered but they are not persuasive. Suzuki teaches a computer chassis containing a power supply (power source circuit board (Col 4, lines 43-45) and a CPU. A fan mounted within the housing directs an air flow throughout the chassis including over all electronic components including the power supply to remove heat therefrom. Rodriguez teaches a computer cooling device (fans #148 and #150) that can effectively dissipate heat generated by a computer CPU and a power supply with the same air flow. The applicant states that the problem to be solved "is a computer cooling device that can effectively dissipate the heat generated by a computer CPU and a power supply" (page 2, para. 0005). The applicant's computer chassis acting as an enclosure with its inlet and exhaust openings is defining an air flow route to insure that the heat sink and power supply are cooled by the fan. The primary reference Suzuki teaches using an air flow (fan) to cool a CPU remote (through a heat pipe and heat sink) from its physical location and the secondary reference Rodriguez is used to teach that the same air flow to cools the computer CPU and the power supply. "The test for obviousness is not whether the features of a

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secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). MPEP 2145 Section III.

8. The amendment to the specification regarding the inventor is acceptable.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lo (US 6,418,018) teaches a cooling apparatus for a computer (Col. 1, line 7) comprising: a conductive base plate (Col. 2, line 35) configured to be installed over a CPU (Fig. 1, #24) and to transfer heat therefrom; a heat conductor (Fig. 1, #60) including one or more heat pipes (Fig. 1, #60) thermally coupled to the base plate adapted to carry heat transferred to the base plate by the CPU away from the base plate; a heat sink (Fig. 1, #50) thermally coupled to the heat conductor for dissipating heat carried by the heat conductor wherein the heat sink comprises a plurality of cooling fins (Fig. 1, #54); a fan (Fig. 1, #30) for dispersing heat transferred to the heat sink, wherein the fan is configured to direct (Col. 1, line 49) an airflow over a power supply (Fig. 1, #20) installed within the computer to remove heat therefrom and to face (see Fig. 1) the power supply; and a housing (Fig. 1, housing for #20, #30 and #50) for the heat sink and the fan configured to be installed adjacent to a window (Col. 1, line 67) in a computer chassis such that the fan can direct airflow through the heat sink and out the window.

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Nakase et al. (US 6,109,340), Bookhardt et al. (US 6,328,097), Rogers et al. (US 6,590,770) and Wobig et al. (US 6,711,013) teach housing for a heat sink and a fan. Yu (US 5,959,837) teaches a conductive base plate, a CPU, one or more heat conductors, a heat sink, a fan and a computer chassis.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

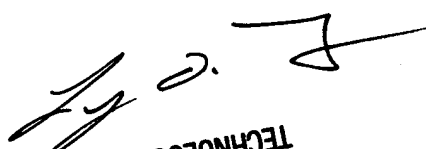

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Hoffberg whose telephone number is (571) 272-2761. The examiner can normally be reached on 8:30 AM - 4:30 PM Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RJH



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